

**ABOVEGROUND STORAGE TANK
INTEGRITY TESTING SURVEY**

HAZARDOUS WASTE TANK 78

ELAN CHEMICAL COMPANY, INC.
268 DOREMUS AVENUE
NEWARK, NEW JERSEY 07105

MARCH 11, 1997
TTI PROJECT NO. 97-170

PREPARED FOR:

**MR. KAROL SULIMIRSKI
FACILITY MANAGER
ELAN CHEMICAL COMPANY, INC.**

1.0 INTRODUCTION

TTI Environmental, Inc. (TTI) was contracted by Elan Chemical Company, Inc. (Elan) to perform integrity testing of one (1) Aboveground Storage Tank (AST) located at their Newark, New Jersey facility. The AST is identified as Tank No. 78. The AST inspection was performed on March 11, 1997, by Michael Adolf, API 653 Certification No. 2091.

Tank 78 is situated vertically in a concrete secondary containment dike along with several other ASTs. It rests on four (4) legs which permit thickness testing of the bottom plate. Tank 78 contains hazardous waste and has a volumetric capacity of 10,000 gallons. The AST shell is constructed of three (3) butt-welded, carbon steel plates. Tank 78 was in service at the time of inspection.

TTI performed integrity testing on Tank 78 in accordance with API Standard 653 and N.J.A.C. 7:1E 2.2-2.4 and the NJDEP Department of Hazardous Waste Storage Engineering guidelines. A visual inspection was also performed on Tank 78, which included a review of the tank's contents, usage, volumetric capacity, dimensions, construction, appurtenance locations and condition, evidence of overflow or leakage, and the physical condition of the tank and piping exterior.

2.0 METHODOLOGY

Visual Inspection

Visual inspection of the AST system was performed in conformance with API Standard 653, and addressed the following:

- Building/Tank number and location
- Specific contents of tank
- Specific usage of the tank, and operational status
- Volumetric capacity in US gallons
- Tank dimensions in feet
- Material used in the construction of the tank, as well as singlewall or doublewall construction
- Provisions for spill containment
- Age of tank or year installed, if available
- Exterior coating; if painted, specify color and condition
- Fill port location and condition
- Vent location and condition.
- Evidence of overflow or leakage
- Presence of stained surfaces on or around the tank
- Presence of stressed vegetation around tank
- Physical condition of tank, including dents, holes, corrosion, or cracked welds
- Piping (to first valve); length, diameter, construction material, and condition of pipe and all fittings
- Historical information, if available
- General comments not covered above

These points are outlined in a checklist for use in the field.

Ultrasonic Thickness Testing

Plate thickness measurements were obtained using a Krautkramer-Branson Model DMS ultrasonic thickness gauge and data recorder fitted with a KBA560 dual element probe, along with a petroleum-based ultrasonic couplant. Prior to data acquisition, a one-point calibration procedure was performed on the meter, using a block of carbon steel of known thickness.

Thickness measurements were obtained along four (4) vertical rows spaced 90° apart, with vertical spacing between measurements being two (2) feet, and the first measurement in each vertical row taken one (1) foot from the bottom plate. For the tank bottom and roof, thickness measurements were obtained along four (4) rows spaced radially 90° apart with spacing between measurements being two (2) feet. Appurtenances (manways, valves, vents, etc.) were addressed with four (4) thickness measurements spaced radially 90° apart.

3.0 FINDINGS

The visual inspection of Tank 78 revealed no significant areas of concern. A copy of the field visual inspection form is included in Appendix A of this report. Pertinent data recorded on the inspection form is summarized in Table 1.0 below.


TABLE 1.0: TANK T-7 - SUMMARY OF AST VISUAL INSPECTION DATA		
CONTENTS		HAZARDOUS WASTE
VOLUMETRIC CAPACITY (US GAL)		10,000
LOCATION		OUTDOORS
DIMENSIONS (FEET)	HEIGHT	25.2'
	DIAMETER	8.5'
	CIRCUMFERENCE	26.3'
CONSTRUCTION		CARBON STEEL
SPILL CONTAINMENT		YES
EXTERIOR		PAINTED WHITE
OVERFLOW		No
LEAKAGE		No
STAINED SURFACES		No
GENERAL COMMENTS AND NOTABLE CONCERNS		

A total of 83 thickness measurements were obtained along the shell, roof and bottom of Tank 78

Thickness data recorded for Tank 78 exceeded API 653 and NJDEP criteria for AST shell thickness. All data is presented on a schematic diagram of Tank 78, included in Appendix B.

4.0 RECOMMENDATIONS

Based on visual inspection, ultrasonic thickness testing results, and internal inspection, TTI finds no areas of concern, and approves Tank 78 for continued service for a minimum of five (5) years from the date of inspection.



Michael J. Adolf
AST Inspections Coordinator
API 653 Cert. No. 2091

TTI

Elan Chemical Company, Inc..
AST Inspection Report, Tank No. 78

APPENDIX A
VISUAL INSPECTION CHECKLIST

ABOVEGROUND STORAGE TANK VISUAL INSPECTION CHECKLIST

(1)

11. EXTERIOR	<input type="checkbox"/> Unpainted <input checked="" type="checkbox"/> Painted (specify color and condition) <i>white Good</i>
12. FILL PORT:	
a) Location	<input type="checkbox"/> Indoor <input type="checkbox"/> Remote <input checked="" type="checkbox"/> Outdoor <input checked="" type="checkbox"/> On Tank
b) Condition	<input type="checkbox"/> Corroded <input type="checkbox"/> Joint Cracked <input checked="" type="checkbox"/> Good <input type="checkbox"/> Staining <input type="checkbox"/> Cap Loose/Missing
c) Other Comments	
13. VENT:	
a) Location	<input type="checkbox"/> Indoor <input type="checkbox"/> Remote <input checked="" type="checkbox"/> Outdoor <input checked="" type="checkbox"/> On Tank
b) Condition	<input type="checkbox"/> Corroded <input type="checkbox"/> Joint Cracked <input type="checkbox"/> Good
c) Other Comments	<i>Not visible at time of test</i>
14. EVIDENCE OF OVERFLOW OR LEAKAGE	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (describe)
15. STAINED SURFACES	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (describe)
16. STRESSED VEGETATION	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (describe)

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17. PHYSICAL CONDITION OF TANK

☒ Dented

☐ Visible Holes

☐ Good

☐ Corroded/Rusted

☐ Welds Cracked

Other Comments:

*Dented area appears in
good condition. Location on
diagram.*

18. PIPING (To first valve):

a) Length (feet)

b) Diameter (inches)

c) Construction

d) Condition of pipe

☒ Good

☐ Corroded/Rusted

☐ Staining

☐ Visible Holes/Cracks

☐ Dented/Bent

☐ Other (describe)

e) Condition of fittings

☒ Good

☐ Loose

☐ Staining

☐ Visible Holes/Cracks

☐ Other (describe)

19. HISTORICAL INFORMATION

Person Interviewed (Name/Title):

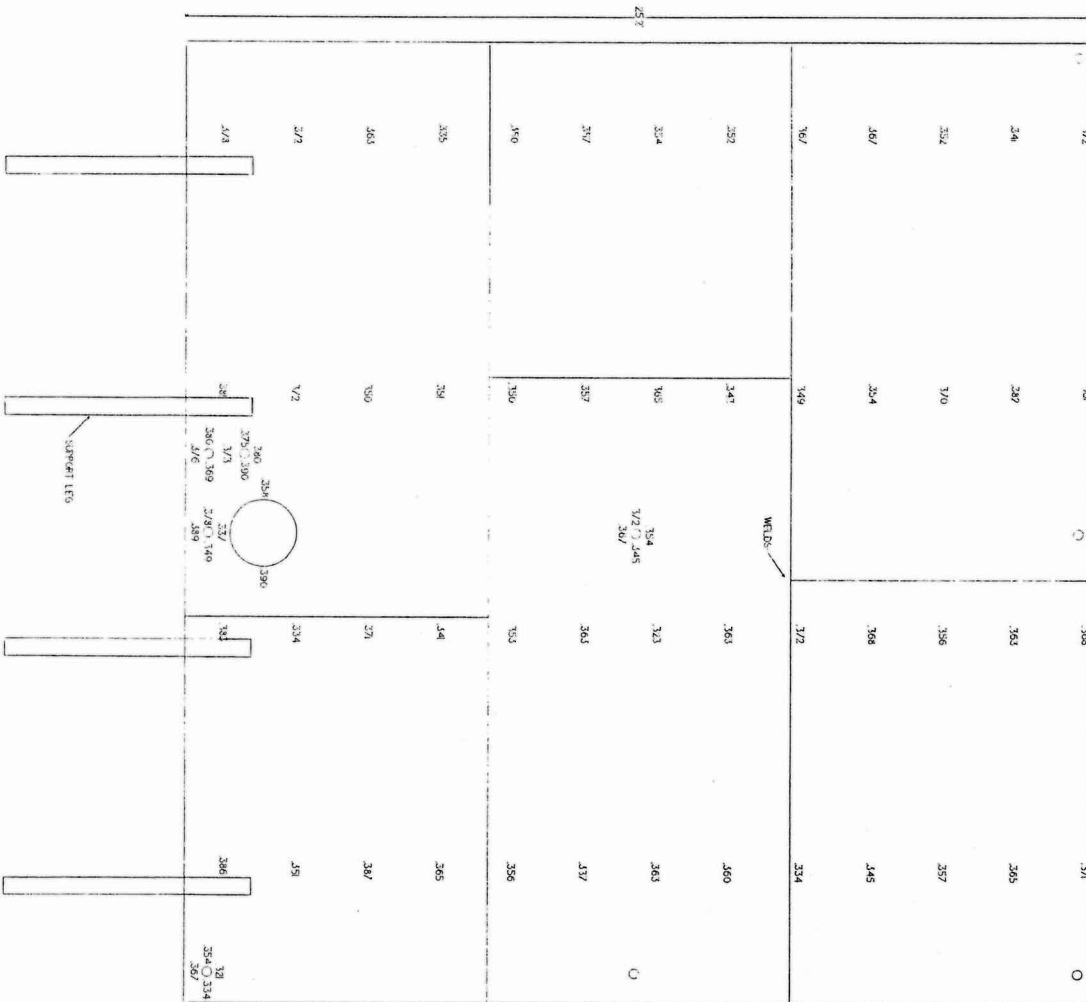
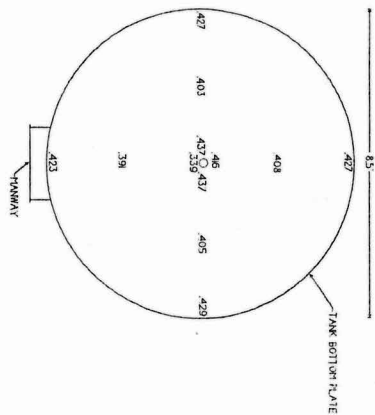
Years of Experience:

20. GENERAL COMMENTS

Tank Roof was not
safely accessible at
time of inspection.

APPENDIX B

TANK SCHEMATIC DIAGRAM & UT DATA
DRAWING NO. TANK 78



TTI ENVIRONMENTAL, INC. 1445 Highway 100 Marlton, New Jersey 08053 Phone: 609/953-2000 Fax: 609/953-2100	THI	DRAWING TITLE: ULTRASONIC THICKNESS SURVEY TANK 78 HAZARDOUS WASTE	PROJECT LOCATION: ELAN CHEMICAL COMPANY NEWARK, NEW JERSEY		NOTES: • - Thickness Measurement Location 257 - Thickness in inches ○ - Appurtenance (manway, valve, vent, etc.)
			DATE: 3-11-1997	SCALE: AS SHOWN	
			DRAWN BY: MJA	CHECKED BY:	
			TTI PROJECT No: 97-170	DRAWING No: TANK 78	

ELAN-78.GCD